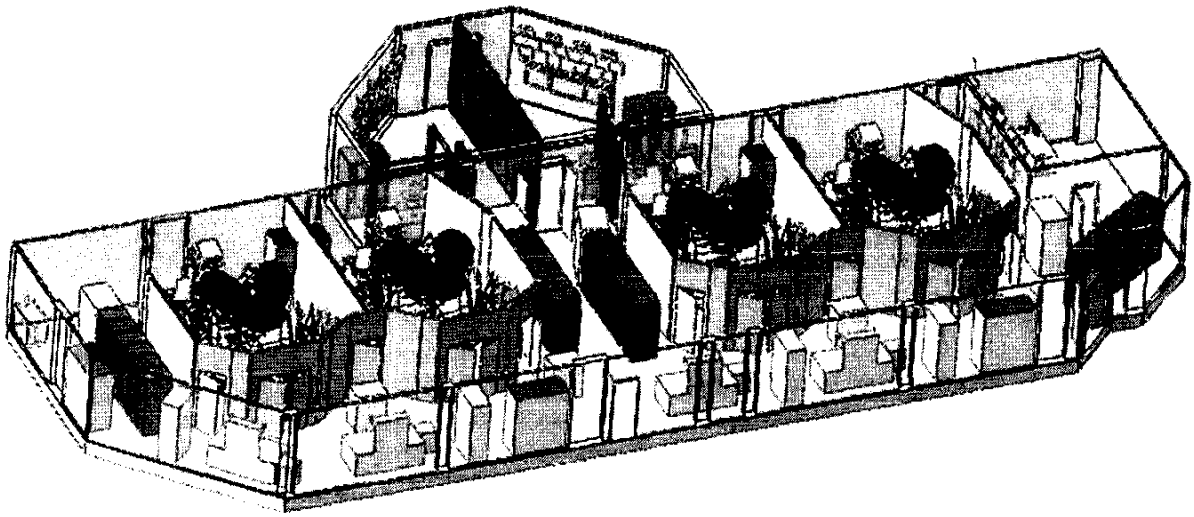
SUMMARY OF
F/A-18C DISTRIBUTED MISSION TRAINING (DMT)

AUGUST 2004 **DEVICE 2F193**

NAVAIR, Orlando Training System Division **ORLANDO, FLORIDA**



TRAINING CATEGORY:

AVIATION

ORIGINATING AGENCY:

NAVAIR

SECURITY CLASSIFICATION OF DEVICE:

Device 2F193 is secret.

PURPOSE OF DEVICE:

Develop pilot proficiency in F/A-18C aircraft operations.

INTENDED USE:

The F/A-18C Distributed Mission Training (DMT), is utilized to train Navy pilots in basic aircraft control, instrument flight procedures, and operation of navigation and communication systems under normal, degraded, or emergency conditions.

The DMT is a 4-ship suite providing networked operations via HLA technology. The DMT simulates the normal, emergency, and degraded aircraft flying conditions in order to train pilots in F/A-18 procedures. These procedures include cockpit preflight and starting, normal and emergency aircraft maneuvers, navigation and instrument flight in visual and Instrument Flight Rules (IFR) environments, functional check flight, landing, takeoff, shutdown, and post flight procedures. The DMT also has the capability of providing training in the tactical environment. The tactical environment involves radar imagery, radar warning system operation. Air-to-Air (A/A) and Air-to-Ground (A/G) weapons delivery.

The DMT simulates the accuracy and response of the F/A-18 controls, instruments, flight performance, flight characteristics, radar system, and weapons systems. This simulation is supported by a visual display system that presents terrain, airfield, ocean surface, atmospheric phenomena, surface and air target images, and missile trials as viewed from the cockpit. An aural system generates tactical tones and environmental sounds. Instructional features include preprogrammed insertion of malfunctions, recording of carrier conditions, ejection parameters, and computer-generated voice messages.

The trainer's simulated environment is bound by 75 degrees north and south lines of latitude and is unlimited in longitude. Flight altitude is from 0 feet to +50,000 feet absolute. All aircraft systems are simulated. The cockpit instruments are categorized into two groups: simulated or nonfunctional three-dimensional duplicates provided for configuration only.

FUNCTIONAL DESCRIPTION:

The DMT consists of five major functional systems that include Trainer Area, Instructor/Operator Station (IOS) Area, Computer Area, Brief/Debrief Station, and Mission Operations Center (MOC).

The trainer area includes the visual system and trainee compartment. The visual system is a nine facet assembly that includes high resolution projectors for displaying the views generated by the image generating computer system. The trainee compartment provides the trainee with a reproduction of the operating environment of the actual aircraft. The flight controls, multipurpose display and control group, and the instrument panel pedestal are simulated aircraft components. The console assemblies are the same as the aircraft's except that the construction is modified to fulfill the trainer needs.

The IOS area is the trainer control station. It provides the necessary controls and monitors to allow control and monitoring of the training operation.

The computer area consists of the mission computer emulator (MCE), host computer, and personal computer image generator (PCIG). The MCE provides the simulation of the mission computer normally found on the actual aircraft. The image generator consists of five cabinets containing a group of personal computers networked together and the required supporting hardware to provide high speed real-time graphic scenes for training.

There are two brief/debrief stations (BDS). Each BDS consists of a computer cabinet and multiple display monitors for the review and critique of the training operations.

The MOC consists of a computer cabinet and multiple display monitors for the assessment and establishment of the training mission.

PHYSICAL INFORMATION:

Cockpit area – 11 feet-2 inch high x 34 feet wide x 34 feet long (2 places).

Instructor/Operator area – 10 feet high x 10 feet wide x 20 feet long (4 places).

Computer Systems area – 10 feet high x 5 feet wide x 20 feet long (4 places).

Mission Operations Center – 10 feet high x 16 feet wide x 19 feet long.

Brief/Debrief room – 10 feet high x 37 feet wide x 22 feet long.

EQUIPMENT REQUIRED (Not Supplied):

None

POWER REQUIREMENTS:

120/208 VAC, 60-Hz, 3-phase, 75 kVA (each device).
118,540 BTUH (each device)
33,350 BTUH (each BDS)
34,500 BTUH (MOC)

PUBLICATIONS FURNISHED:

Operation & Maintenance Instructions (NAWCTSD P-8398)

Maintenance Requirements Cards (NAWCTSD P-8399)

Trainer System Support Document (NAWCTSD P-8400)

PERSONNEL:

Instructor – One instructor pilot qualified in F/A-18C weapons systems training procedures.

Operator – One qualified personnel to assist the instructor pilot.

Trainee – One student pilot.

Maintenance Personnel – COMS contractor.

CONTRACT INDENTIFICATION:

Manufactured by L-3 Communications, Link Simulation and Training Division, Arlington, Texas under NAVAIR Contract No. N61339-00-D-0032/DO 0003.